

# A NEW *CTENOTUS* (REPTILIA: SCINCIDAE) FROM THE MITCHELL GRASS PLAINS OF CENTRAL QUEENSLAND

STEPHEN K. WILSON AND PATRICK J. COUPER

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*Ctenotus agrestis* sp. nov., from the black soil, grassland plains of the Aramac area of central Queensland, is a member of the *C. lesueurii* group. It bears some resemblance to *C. robustus* and *C. joanae*. Colour, pattern and sculation readily distinguish it from these species.

□*Ctenotus, C. lesueurii group, black-soil, central Queensland.*

Stephen K. Wilson & Patrick J. Couper, Queensland Museum, PO Box 3300, South Brisbane, Queensland 4101, Australia; 14 June 1995.

*Ctenotus* is the largest genus of Australian reptiles. Ninety species are now recognised. Diversity is greatest in arid and seasonally dry areas, yet few *Ctenotus* inhabit the deeply cracking clay ("black-soil") plains with Mitchell grass (*Astrebla*) of Australia's eastern interior. During a herpetological survey in central Queensland (1987), three specimens of a new *Ctenotus*, conforming to the *C. lesueurii* species group of Ston et al., 1981 (toes only slightly compressed, lamellae under toes with a wide callus; second supralocular wider than third; pattern well developed with bold dorsal stripes and pale lateral spots) were collected from grasslands near Aramac.

While many reptiles (e.g., *Ctenotus robustus*) include black-soil plains in their broad distributions, only a small number appear to be confined to this distinct habitat. *C. agrestis* joins a short list of species (*Pogona henrylawsoni* (Agamidae), *Ctenotus schevilli* and *C. joanae* (Scincidae), *Varanus spenceri* (Varanidae), *Pseudechis colletti*, *Pseudonaja guttata* and *P. ingrami* (Elapidae) regarded as black-soil endemics.

All measurements were taken using Mituloyo electronic callipers. Supraciliaries, supralabials, infralabials and subdigital lamellae on the fourth toe were counted on both sides of specimens examined. Abbreviations for body measurements are as follows:- snout-vent length (SVL); axilla to groin (AG); tail length, vent to tip (TL); fore-limb, axilla to tip of longest digit (L1); hindlimb, groin to tip of longest digit (L2); forelimb to snout, from anterior limb insertion to tip of snout (L1-S); head width, widest point (HW); head length, tip of snout to posterior margin of parietals (HL); snout, tip to anterior margin of orbit (S); eye to ear, posterior margin of orbit to dorsal anterior margin of ear (EE). Additional material examined in this study is listed in appendices 1 &

2. Other abbreviations used: Queensland Museum (QM), Australian Museum (AM), Museum and Art Gallery of the Northern Territory (NTM).

## SYSTEMATICS

### *Ctenotus agrestis* sp. nov. (Figs 1, 2)

*Ctenotus* sp. (2). Wilson & Knowles, 1988, p.277.

#### MATERIAL EXAMINED

HOLOTYPE: QMJ46694, Brendallan Stn, via Aramac, central Queensland (22°57'S, 145°14'E), coll. S.K. Wilson and P. J. Couper, 06 March 1987. PARATYPES: QMJ46689, QMJ46695, collection data as for holotype except QMJ46689, coll. 05 March 1987.

#### DIAGNOSIS

*Ctenotus agrestis* can be confused only with *C. robustus* and, to a lesser degree, with *C. joanae*. It is readily distinguished from the former by its pale colour (dorsally pale grey-brown vs brown-olive brown); size (max SVL 73.9 vs 110.0mm); size and shape of ear lobules (inconspicuous and rounded versus prominent, and pointed or rounded); single supradigital scale row on the fourth toe (extending along entire digit vs distal portion of digit only, fig.3).

From *C. joanae* it is distinguished by the number of scales along the mid-line between the mental and anal scales (77-78 vs 63-68); and by the upper lateral pattern (elongate pale dashes versus plain, or sometimes with a series of small pale dots).

#### DESCRIPTION

SVL(mm) 66.5-73.9 (mean=71.2, N=3). Proportions, (%SVL):- AG=49.2-53.3 (mean=51.2, N3); TL=155.4-173.2 (mean=164.3, N=2);

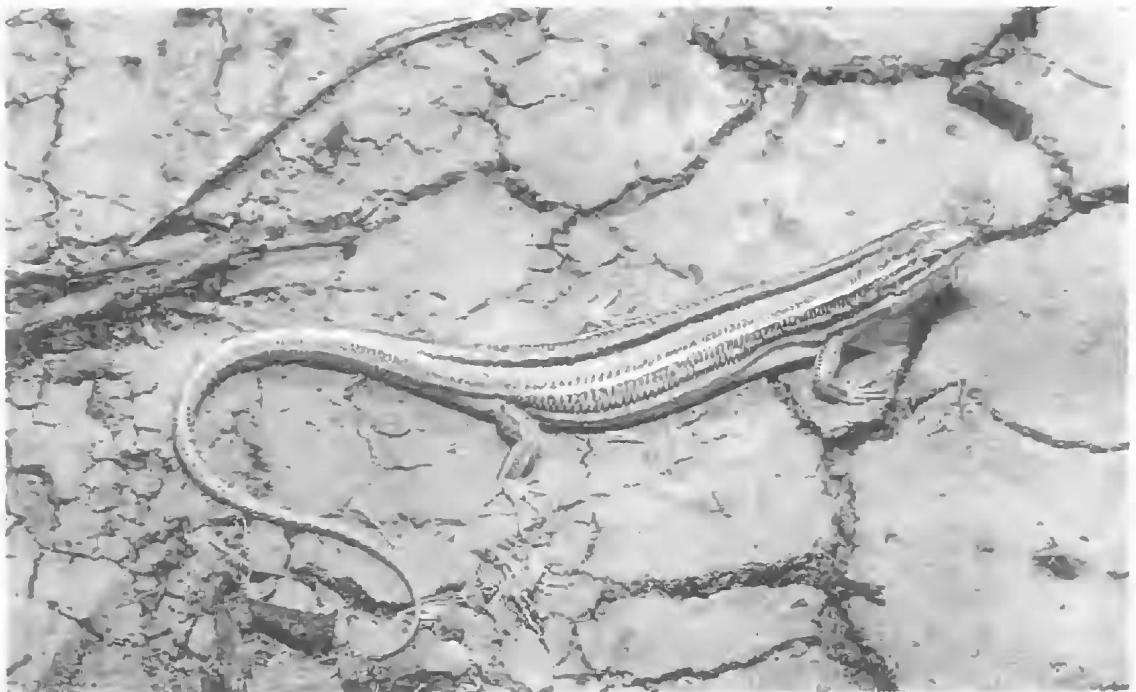


FIG. 1. *Ctenotus agrestis* sp. nov., (Holotype QMJ46694) in life (Photograph by S. Wilson).

$L_1=24.8-29.2$  (mean=26.9, N=3);  $L_2=37.6-41.5$  (mean=39.9, N=3);  $L_1-S=33.1-33.4$  (mean=33.2, N=3);  $HW=12.9-13.0$  (mean=12.96, N=3);  $HL=16.5-18.1$  (mean=17.6, N=3);  $S=7.3-8.3$  (mean=7.9, N=3);  $EE=6.8-7.8$  (mean=7.3, N=3).

Nasals in point to broad contact; nasal groove absent; prefrontals very narrowly to moderately separated; maximum length of frontal 1.7-2.1 times maximum width (mean=1.9, N=3); frontal contacting frontonasal, prefrontals, first three supraoculars and frontoparietals; supraoculars 4, second the largest; supraciliaries 7-8 (mean=7.5, N=6), first or second the largest; frontoparietals paired and distinct from interparietal; enlarged nuchals 7-9 (mean=8, N=3), two-three in direct contact with parietals; loreals two; presuboculars 1; preoculars 2, the lower being the largest; supralabials 7-8 (mean=7.5, N=6) with fifth or sixth subocular; infralabials 6-8 (mean=7, N=6); postmental contacting two infralabials on each side; ear opening large, vertically elliptic with 3-4 (mean 3.2, N 6) small lobules on anterior edge.

Midbody scale rows 30-32 (mean=30.7, N=3); number of scales in a direct line between mental and anal shields 77-78 (mean=77.7, N=3); paravertebral scales, from anterior-most nuchal to posterior margin of hindlimb 60-61 (mean=60.7, N=3); lamellae beneath fourth toe

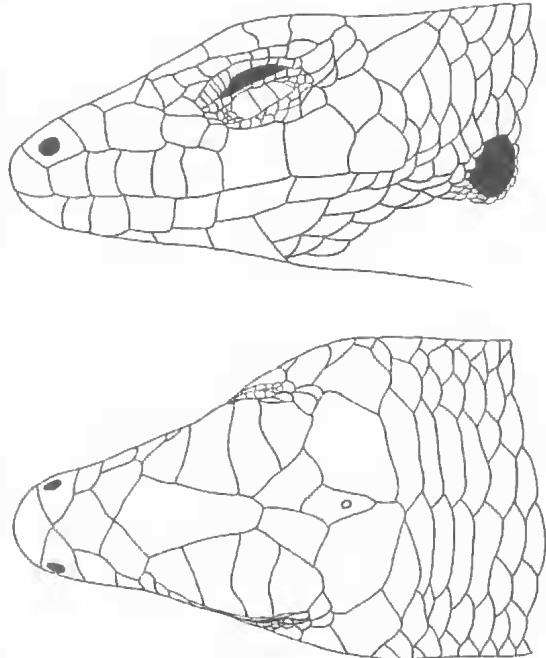


FIG. 2. *Ctenotus agrestis* sp. nov., Holotype QMJ46694. Lateral and dorsal views of head.

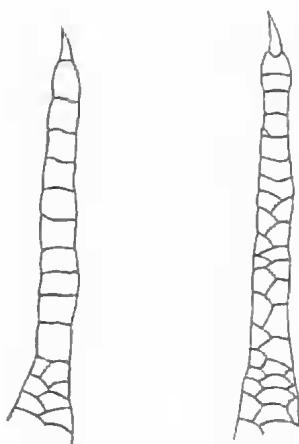


FIG. 3. Arrangement of supradigital scales on the fourth toe. (Left) *Ctenotus agrestis* sp. nov., Holotype QMJ46694. (Right) *Ctenotus robustus*, AMR62272.

17-19 (mean=18, N=6) broadly callose; a single row of supradigital scales present along almost the entire length of the fourth toe.

The measurements and scale counts for the holotype (QMJ46694) are as follows: SVL=73.3mm; AG=36.1mm; TL=114.0mm; L1=18.2mm; L2=27.5mm; L1-S=24.29mm; HW=9.5mm; HL=12.1mm; S=5.4mm; EE=5.0mm. Maximum length of frontal 4.9mm; maximum width of frontal 2.4mm; supraciliaries 8, first largest; enlarged nuchals 9, three in direct contact with parietals; supralabials 8 (left side) with sixth entering eye, 7 (right side) with fifth entering eye; infralabials 7 (both sides); ear lobules 4 (left side) 3 (right side); midbody scale rows 30; number of scales in a direct line between

mental and anal shields 77; paravertebral scales 61; lamellae beneath fourth toe 17 (left side) 18 (right side).

**Pattern.** Holotype - Dorsal and upper lateral ground colour pale-grey brown. Longitudinal stripes (Fig. 1) are as follows: Vertebral black, broad and prominent, from nuchals to base of tail; paravertebrals diffuse and pale; dorsolateral white, from above eye to tail tip, bordered dorsally by irregular black edge; upperlateral, a series of pale grey dashes, from eye to hindlimb; midlateral white, from nostril to tail; lowerlateral obscure grey-brown, from labials to tail; ventrolateral grey-brown, incomplete, between axilla and hindlimb. Ventral surface white. Head with obscure dark blotches. Limbs pale grey-brown with pale stripes.

**Variation in paratypes** - Vertebral narrow and obscure (QMJ46695). Irregular black upper edge to dorsolateral, almost non-existent (QMJ46695). Ventrolateral continuous (QMJ46689).

#### DISTRIBUTION

Known only from Brendallan Stn (22°57'S, 145°14'E), via Aramac, central Qld.

#### HABITAT

(Fig. 4) The type and only known locality is an open black-soil plain vegetated with Mitchell Grass (*Astrebla* sp.) and scattered low Acacias (probably *A. farnesiana*).

#### ETYMOLOGY

Latin - *agrestis* relating to the fields, alluding to the open, grassland habitat at the type locality.

#### ACKNOWLEDGEMENTS

We thank the Landers family for kindly allowing us to work on Brendallan Station; Ross Sadlier and Paul Horner for allowing us access to specimens in the collections of the Australian Museum and Museum and Art Gallery of the Northern Territory respectively; Gordon Guymer from the Queensland Herbarium for identifying the flora in the habitat photograph; Lauren Keim for her assistance in the laboratory; Greg Czechura and Glen Ingram for their encouragement and advice; Jeanette Covacevich for suggesting improvements to the manuscript.

#### LITERATURE CITED

STORR, G.M., SMITH, L.A. & JOHNSTONE, R.E. 1981. 'Lizards of Western Australia. 1. skinks'.



FIG. 4. Habitat of *Ctenotus agrestis*, Brendallan Stn, via Aramac, Central Queensland (22°57'S, 145°14'E).

(University of Western Australia Press with Western Australian Museum: Perth).

WILSON, S.K. & KNOWLES, D.G. 1988. 'Australia's reptiles'. (Collins Australia: Sydney).

**APPENDIX 1.** Specimens of *Ctenotus robustus* examined in the current study. All localities are for Queensland unless otherwise indicated.

**Queensland Museum.** QMJ12110, Mt Molloy (16°41'S, 145°20'E); QMJ1686, Herbert Gorge (18°14'S, 145°32'E); QMJ27697, Hencamp Ck, 5km N, 1km E Rollingstone (19°02'S, 146°19'E); QMJ27646-47, Rowes Bay, 3km N, 3km W Townsville (19°14'S, 146°47'E); QMJ44567, Lolworth Stn., Blossom Hill (20°09'S, 144°59'E); QMJ44572, Lolworth Stn. (20°12'S, 144°58'E); QMJ5637, Lindeman Is. (20°27'S, 149°02'E); QMJ44586-87, Campaspe Stn (20°30'S, 145°38'E); QMJ44706, Mt Cooper Stn. (20°30'S, 146°51'E); QMJ44622-23, Helenslee Stn. (20°31'S, 145°42'E); QMJ44588-89, Pajingo Stn. (20°46'S, 146°10'E); QMJ44850, Hanging Rock Stn. (21°09'S, 146°47'E); QMJ44562-63, Natal Downs, Curtis Dam (21°11'S, 146°04'E); QMJ28332, Kynuna, 9.6km SE (21°40'S, 141°59'E); QMJ31526, QMJ31530, near Mt Flinders (22°33'S, 150°46'E); QMJ46682-83, QMJ46688, QMJ46693, Brendallan Stn via Aramac (22°57'S, 145°14'E); QMJ47152, Nth Keppel Is (23°10'S, 150°58'E); QMJ32586, 'Lochnagar', via Barealdine (23°34'S, 145°39'E); QMJ46760, Kalapa (23°31'S, 150°16'E); QMJ24218, Curtis Is., S end (23°45'S, 151°18'E); QMJ27911, Lowmead, Warro (24°32'S, 151°45'E); QMJ47093, Dawson R. Crossing at Baroondah Stn (25°41'S, 149°13'E); QMJ12105, 17.6km from Goomeri (26°02'S, 152°02'E); QMJ31520, Sandy Ck, via Ferndale (26°45'S, 151°03'E); QMJ28625, Moreton Is., NE end (27°11'S, 153°24'E); QMJ22966, Virginia, Brisbane (27°23'S, 153°09'E); QMJ40741, Brisbane (27°28'S, 153°01'E); QMJ6747, Toowoomba (27°34'S, 151°57'E); QMJ16087, Forest Hill (27°35'S, 152°21'E); QMJ26384, Dynevor Lakes, 44.5km E, 7km N Thargomindah (28°04'S, 144°10'E); QMJ35407, QMJ35427, Inglewood, old dump site (28°25'S, 151°05'E); QMJ35426, Brush Ck Stn, 21km S Inglewood (28°36'S, 151°06'E); QMJ40359, Ballandean, via Stanthorpe (28°48'S, 151°50'E); QMJ47095, Girraween NP via Stanthorpe (28°50'S, 151°55'E); QMJ12113, Wyberba, via Stanthorpe (28°52'S, 151°52'E); QMJ30720, Texas Caves, via Texas (28°53'S, 151°26'E); J439, S Queensland; QMJ31860-01, Condobolin, NSW (33°05'S, 147°09'E).

**Australian Museum.** AMR62275, 143km S Hughenden (22°00'S, 144°28'E); AMR64334-35, 80.1km N Muttaburra via Hughenden rd. (22°02'S, 149°29'E); AMR61500-13, 150km from Hughenden on Muttaburra rd. (22°13'S, 144°16'E); AMR62271-72, 38km S of Muttaburra on Aramae rd. (22°46'S, 144°53'E); AMR62274, 64km S Muttaburra on Aramae rd. (22°51'S, 145°04'E); AMR62273, Aramae rubbish tip (22°58'S, 145°14'E).

**APPENDIX 2.** Specimens of *Ctenotus joanae* examined in the current study. All localities are for the Northern Territory unless otherwise indicated.

**Queensland Museum.** QMJ54383-84, vicinity of Widdallion Ck; NWQLD (18°26'S, 138°29'E).

**Australian Museum.** AMR71363, Avon Downs (20°02'S, 137°30'E); AMR80360-61, AMR80531, 20km W of QLD/NT border on Barkly Hwy, (19°58'S, 137°49'E).

**Museum and Art Gallery of the Northern Territory.** NTMR3636, Anthony Lagoon (19°59'S, 135°36'E); NTMR5326, Anthony Lagoon (17°59'S, 135°32'E); NTMR8447, No. 6 bore, Rockhampton Downs (19°23'S, 135°24'E); NTMR9573, No. 17 bore, Alroy Downs (19°06'S, 136°12'E); NTMR14628, Rocklands Stn., Barwidgee Ck (19°49'S, 137°55'E); NTMR16424, Brunette Downs, Racecourse (18°36'S, 136°06'E).